

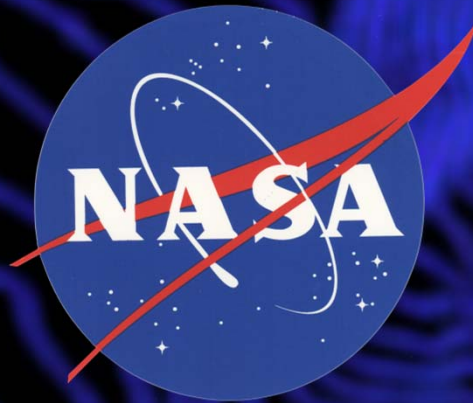
NASA RECOVER

Wildfire Rehab. planning

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Acknowledgements



- Operational End-User Partners



Overview

- Decision support system (DSS)
- MCE (SaaS)
 - Support USDI BLM fire managers and BAER teams and
 - Idaho Dept. of lands fire management



Objectives

Objective In partnership with the Department of Interior's Bureau of Land Management (BLM), we will build and evaluate a prototype RECOVER decision support system. RECOVER will be an automatically deployable, site-specific multi-criteria decision aid that brings together in a single application the information necessary for Burned Area Emergency Response (BAER) teams to plan reseeding strategies and monitor ecosystem recovery in the aftermath of savanna wildfires.

RECOVER will use state-of-the-art cloud-based data management technologies to improve performance, reduce cost, and provide site-specific flexibility for each fire. Customized RECOVER instances will be automatically deployed in the Amazon EC2 Cloud when a fire is detected. RECOVER's decision products will be dynamically assembled from an existing network of data resources. RECOVER will automatically generate and refresh derived fire severity, fire intensity, and other products throughout the burn so that when the fire is contained, BAER teams will have at hand a complete and ready-to-use RECOVER system customized for the target wildfire. Since BAER remediation plans must be completed within 14 days of a wildfire's containment, RECOVER has the potential to significantly improve the decision-making process.

Post-fire Rehab. Planning

- The process...

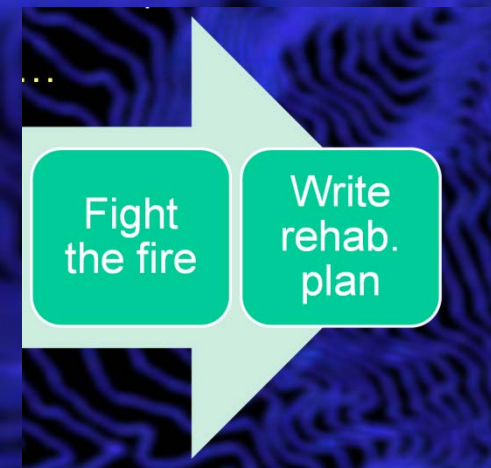
A fire
burns

Fight
the fire

Write
rehab.
plan

The RECOVER DSS

- In this process...
 - Once *contained*
 - Plans must be submitted in 14 days



14 days from
containment

A Role for GIS

- Improved planning can result from
 - Base data¹ that has already been prepared for Idaho, and
 - Made available as web services

1- Elevation, slope, aspect, soils, land ownership, etc.

Goals

- To improve landscape rehabilitation following wildfire by improving the decision process
 - More/better data
 - More/better information
 - Better informed decisions

GIS is Data Driven...

- Statewide Layers

- Visualization

- DRG
 - NAIP
 - Hillshade

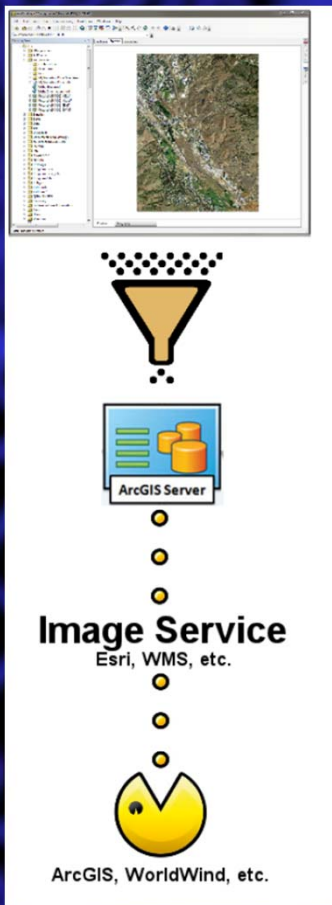
- Evaluation

- Surface mgmt.
 - Ecological site desc.
 - Fire history
 - Hydrography
 - Wetlands
 - Structures

- Quantitative analysis

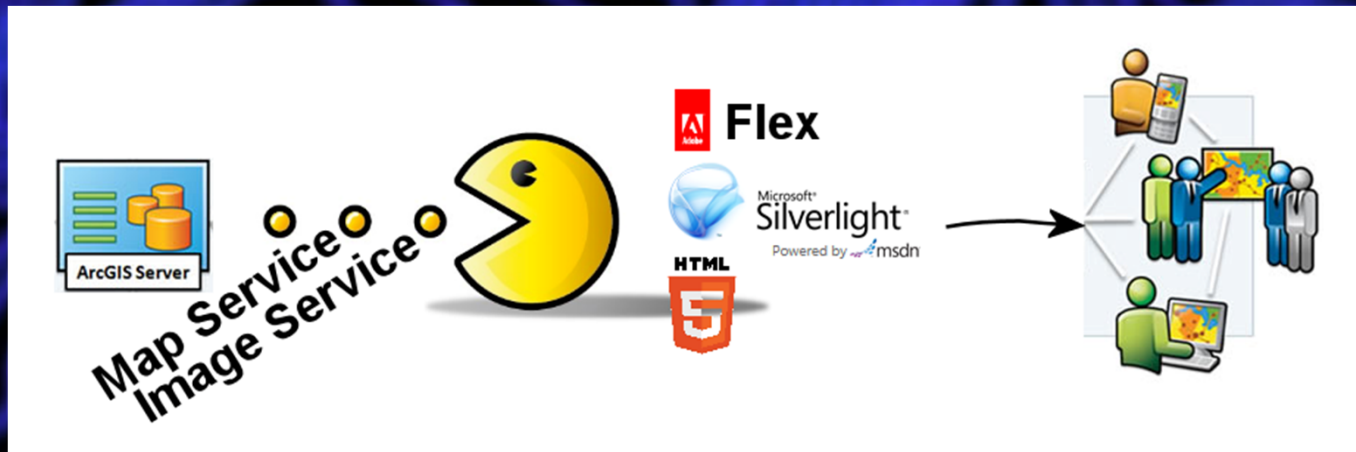
- Fire severity (fire specific)
 - Slope
 - Aspect
 - Soils
 - Wildlife habitat (Sage grouse)

Into the hopper they go...



Create an ArcGIS image service and WCS

Typical Delivery of Web Services



- End-users interact with the web map through a browser

Nationwide Deployment

- The Big Picture



Responding to a Fire...

- Knowing the spatial extent (min, max XY) of the fire, a request is made for a map...



Timeline

- Began October 1, 2012
- Base layers and services are currently being staged
- Service consumption into iRODS has begun
- Prototype of on-line service planned for summer 2013

In closing...

- A quote from William Shakespeare might be appropriate...
 - *He that hath a beard is more than a youth, and he that hath no beard is less than a man.*

The background of the slide is a vibrant blue color with a complex, wavy, topographic-like pattern. The pattern consists of numerous irregular, interconnected lines that create a sense of depth and movement, similar to a topographic map or a stylized landscape. The lines vary in thickness and direction, creating a rich, textured appearance.

Questions?